

### 3.3 Interpreting and Sketching Graphs

#### Interpreting a Graph

In math, a graph provides much information. The following graph shows the depth of a scuba diver as a function of time.

**Domain:**

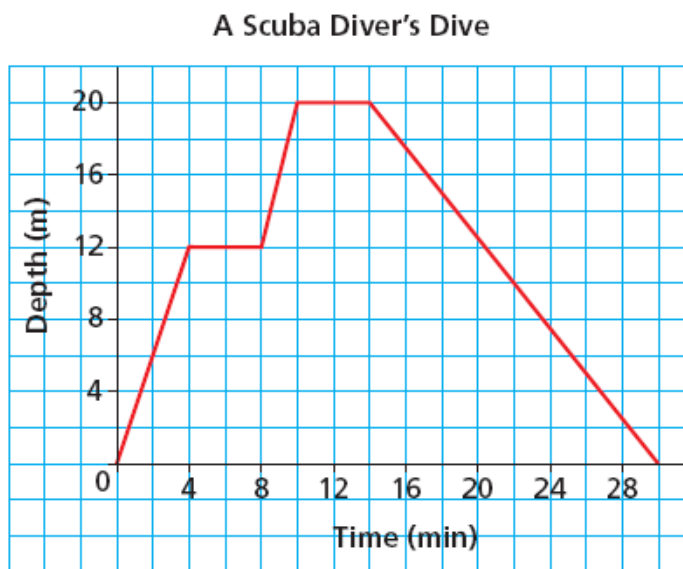
**Range:**

1. Describe the situation of the dive.

2. How many minutes did the dive last?

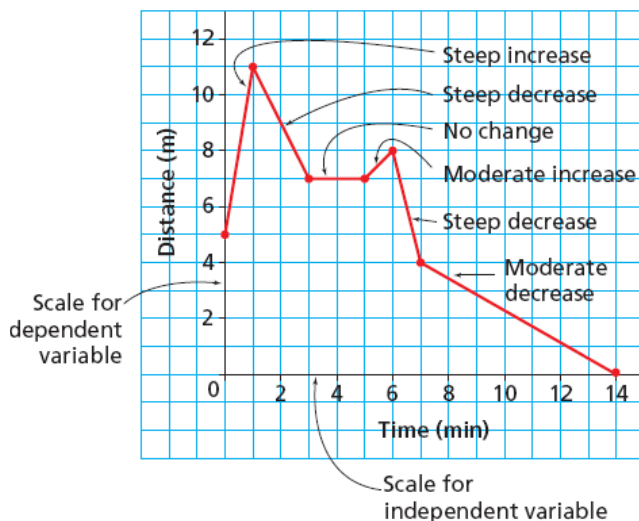
3. At what times did the diver stop her descent?

4. What was the greatest depth the diver reached? For how many minutes was the diver at that depth?



#### Properties of a Graph

The properties of a graph can provide information about given situations.



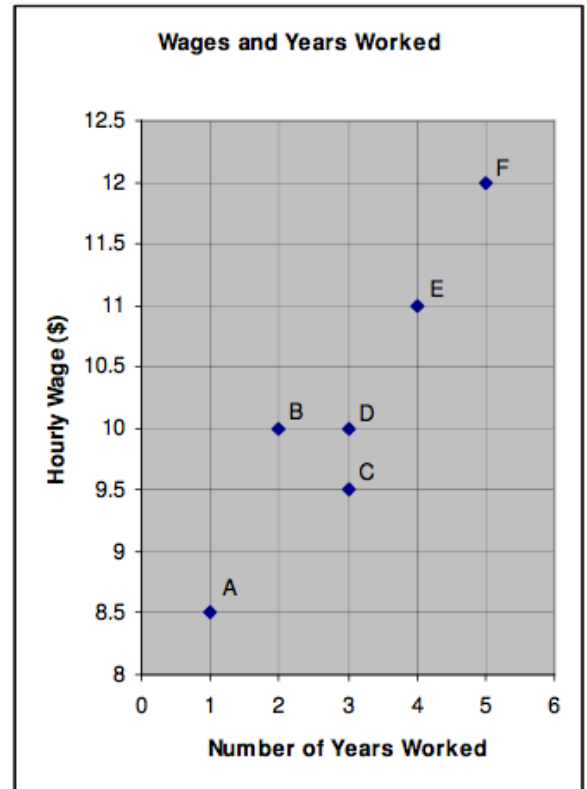
**Example 1:** Each point on the given graph represents a person.

a) What are the independent and dependent variables?

b) Which person has the greatest hourly wage?  
What is this wage?

c) Which person has worked for the least number  
of years? What is this number?

d) Which two people have the same hourly wage?  
What is this wage?

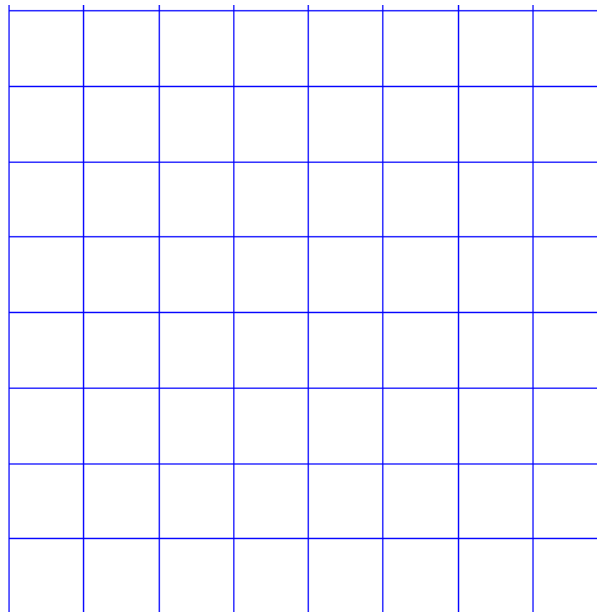


e) Which two people have worked for the same number of years? What is this number?

**Sketching a graph**

**Example 2:** Sketch a graph for a given situation.

- Miss W went on a snowboard trip to Whistler last winter.
- On one of her days there, she took the gondola up to the highest peak. After that, she strapped her boots in her board and started to go.
- The time it took her to get down the mountain was 30 minutes.
- The first run she took was a pretty steep one with lots of trees-she was boarding at a speed of 15 km/h for 5 minutes.
- She then hit a flat open section where she slowed down to 8 km/h for 6 minutes.
- Miss W had to stop at the bottom of the flat section for 4 minutes to wait for her fiancé (because she is much better than he is).
- As soon as he caught up, she decided to go through some trees for 10 minutes going at a speed of 5 km/h.
- After she got out of the trees, she hit another steep section increasing to speed of 13 km/h for another 5 minutes until she reached the bottom of the mountain and came to a complete stop.



**Practice 3.3**

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3, 4, 5, 6, 8, 10, 11, Reflect

